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1980 Survey of Sport Fishing In Manitoba

Manitoba

1980 SURVEY OF SPORTFISHING IN MANITOBA

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EXECUTIVE SUMMARY

The sport fishery in Manitoba was examined by means of questionnaires sent to a sample of licensed anglers in 1980. This study, the second in a series carried out at five year intervals, was conducted to provide information on the numbers, origins, and destinations of anglers, their expenditures and investments in activities and equipment used for fishing, as well as the numbers and kinds of fish harvested and amount of fishing effort expended. Respondents also provided comments about fishing quality, hospitality and services.

Angler Profile

There were 195,800 licensed anglers in Manitoba in 1980. Of these, 144,250 were residents of the province and the remainder were Canadian and other nonresidents. About 90% of the residents, and 89% of the non-residents fished. Almost 84% of the nonresident anglers were Americans, mainly from the West North Central area of the United States; most of the remaining nonresident anglers were Canadian citizens, from the neighbouring provinces of Saskatchewan and Ontario.

Approximately 40% of Canadians and 12% of non-Canadians stayed with friends and relatives; 25% of Canadians and 36% of non-Canadians stayed in tents or trailers; and, 13% of Canadians and 33% of non-Canadians stayed at fishing lodges or camps.

Fishing Effort

Angling in Manitoba is a major recreational activity. Anglers fished a total of over 2.8 million days in 1980, or 15.8 days per angler. Resident anglers fished an average of 18.9 days, nonresident Canadians fished 6.2 days, and other nonresidents fished 7.4 days.

Most fishing occurred during the summer period May through September. During that time, 80% of resident, 96% of nonresident Canadian, and 95% of other nonresident fishing effort occurred.

Harvest

In 1980, licensed anglers caught an estimated 10.5 million fish and retained 5.5 million of these which weighed an estimated 5 million kilograms, or 11 million pounds. Pike, perch and walleye, in that order, comprised 94% of the harvest by number. Resident anglers caught 81% of the fish harvested.

Anglers in Manitoba kept slightly more than 30 fish each, of which 13 were walleye, 9 were northern pike and 1 was lake trout. However, in order of preference resident anglers preferred walleye, northern pike and perch. Nonresidents, preferred, and retained, in order of quantity, walleye, northern pike and lake trout.

Approximately 80% of resident anglers were successful and they retained almost 56% of all fish harvested. Nonresident Canadians were 85% successful and retained 62% of all fish harvested. Other nonresidents were 94% successful and retained slightly more than 37% of all fish harvested.

Expenditures and Investments

In 1980, anglers spent $48.1 million in Manitoba on activities directly associated with sportfishing. Residents spent a total of $30.5 million, which represents an average of $230 per angler. Nonresident Canadians spent $1.2 million, an average of $159 per angler. Other nonresidents spent $16.3 million, an average of $409 per angler. The average expenditure for all active anglers was $267.

Anglers invested $57.2 million on major durables and property, of which 62% or $35.8 million, was attributed to sportfishing activities.

Virtually all of these investments were made by residents. The average investments of residents was $417, nonresident Canadians, $49, and other nonresidents $34.

Without regard to year of purchase, the 1980 market value of the 59,663 boats owned by residents was reported as $106.5 million. Outboard motor boats were most popular followed by canoes. Outboards accounted for 65% of the market value of all boats and were used for 73% of all boat-days of fishing.

Conclusions

The results of the 1980 survey of sportfishing in Manitoba show that it is an important economic component of the natural resource sector in the province. In all, anglers spent and invested over $105.3 million in 1980, of which $83.9 million was wholly attributable to sportfishing within Manitoba. When economic multipliers are applied to these expenditures, it is estimated that the economic impact within the Manitoba economy due to sportfishing amounts to over $125 million for 1980.

Overall, there has been some change in angling activities within Manitoba since 1975. The total number of licensed anglers increased from 178,909 to 195,800, and the number who fished was up accordingly. The number of days fished increased slightly to about 2.8 million days or about 15 days per angler. The total harvest increased slightly to 5.5 million fish. More than 180,311 anglers fished, and of these, more than 171,000 were residents of Manitoba. This means that almost one Manitoba resident in five fished in 1980. In conclusion, this survey clearly indicates that angling in Manitoba is a fishery of major proportions.

INTRODUCTION

In 1980, a survey of sportfishing in Manitoba was conducted to provide basic information on the impact and importance of this fishery to the public, anglers, and the sportfishing industry as well as to fisheries

management agencies. The survey was conducted by the Fisheries Branch of the Manitoba Department of Natural Resources in co-operation with the Economic Policy Branch of the Department of Fisheries and Oceans of Ottawa.

The 1980 survey is the second in a series which are carried out at five year intervals. The results of the first survey were reported in an unpublished report entitled, "1975 Survey of Sportfishing in Manitoba". Both surveys were part of a nationally-coordinated study conducted by all of Canada's provincial and territorial sport fisheries agencies and several regional offices of the federal Department of Fisheries and Oceans. Thus not only does this report provide a basic understanding of the Manitoba sport fishery in 1980, it also makes an important contribution to an understanding of the national sport fishery.

SURVEY BACKGROUND

In 1970, representatives of Canadian fisheries agencies started to meet on a regular basis to discuss matters of common concern. At these meetings, now termed the Canadian Sport Fisheries Conferences, there was continuing agreement that effective management requires a framework of basic information regarding the size, value, socio-economic performance and potential of Canada's sport fisheries. The size of this task was realized from the outset; no comprehensive information existed and partial coverage from the only previous survey, conducted in 1961, indicated that millions of Canadians and hundreds of millions of dollars were involved.

It was also realized that the development and publication of sportfishing data were required on a regular basis, and that all sport fisheries agencies must work together to provide such information. Plans made at the 1972 and 1974 conferences were implemented in January 1976 when thirteen provincial, territorial and federal sport fisheries agencies launched the first nationally-coordinated set of surveys. Some 50,000 questionnaires which asked anglers about their fishing activities for the calender year 1975 were mailed. The response was gratifying: 60% of the

anglers surveyed from across Canada provided information for survey publications.

The success of the 1975 survey led to the development of the 1980 study. These surveys were successful in two important ways. First, they provided Canadians with the first authoritative data on the magnitude and importance of Canada's sport fisheries. Second, they demonstrated that, despite regional differences, consistent and comparable data can be generated from a common group of questions.

A total of 2,300 questionnaires were sent to persons who had purchased angling licences in Manitoba in 1980, and 1,062 (46%) were completed and returned to provide the basis for the information given in this report. After extrapolating information from these returns, an overall description of sportfishing in the province was developed. Additional details regarding methodology are contained in Appendix B. The questionnaires used in the 1980 survey are reproduced in Appendix C.

RESOURCE BASE

Manitoba's 650,000 km^2 contain over 100,000 lakes which total 101,592 km^2 of water surface. Lakes Winnipeg, Manitoba and Winnipegosis are the three largest lakes and provide most of the 33,000,000 kg of fish that are caught commercially by the 3,700 commercial fishermen in the Province.

The Province of Manitoba is subdivided geographically into three management units. Most of the estimated 280,000 anglers (including those under 16 and over 65) fish in Angro-Manitoba in the southern part of the Province (Division 1) where fish stocks are most limited. The road accessible north (Division 3) sustains high quality drive-in and semi-remote sport fisheries while in the remote north (Division 3) the lodge industry is the major user.

Manitoba's fishery consists of 84 species of fish, 42 of which grow to sufficient size to be taken by anglers or commercial fishermen, but only 20 to 25 of these are taken on a regular basis.

TABLE 1. Numbers and characteristics of anglers who fished in Manitoba in 1980.

Characteristics	Resident of Province	Nonresident Canadian	Nonresident Other	Total
Licensed angler population	147,250[a]	7,750[a]	40,800	195,800
Estimated nonactive anglers	14,381	237	871	15,489
Estimated active anglers	132,869	7,513	39,929	180,311
Males	109,448	6,564	36,502	152,514
Average age	38	39	43	39
Females	23,421	949	3,427	27,797
Average age	39	32	45	39
Estimated anglers under 16 years of age[b]	42,958	1,209	5,723	49,890
Total Estimated Active Anglers of all ages	175,827	8,722	45,652	230,201

a Resident and other Canadian angling licences are identical. The number of Canadians other than Manitoba residents was estimated from the sample drawn in 1980.

b. Minimum estimate since only households of licensed anglers were surveyed.

ANGLER PROFILE

Numbers

A total of 195,800 anglers held fishing licences in Manitoba in 1980 (Table 1). Not all of these fished: an estimated 15,489 anglers who bought licences did not fish. The overall estimated number of anglers who actually fished increased by almost 10,750 from 1975 (Appendix A, Table A1). There was, however, a decline of over 14,000 in the number of anglers under the age of 16 by over 14,000.

A total of 147,250 Manitoba residents, or 19% of the province's population over 15 years of age, held Manitoba angling licences in 1980.The total number of Manitoba residents of all ages who were active fishermen in 1980 was 175,827 or 17% of the province's population. Well over 80% of the licensed active resident anglers were male. Approximately 21% of all anglers were under 16 years of age.

Origins

Of the estimated 230,201 active anglers, 76% were Manitoba residents, only 4% were Canadians from other provinces, and 20% were residents of other countries (mainly the United States).

More than three quarters of the resident anglers resided in the southern areas of Manitoba where the majority of the populated urban centers are located, namely Winnipeg, Brandon and Portage la Prairie (Figure 1, Table 2).

More than 7,700 Canadians from other provinces fished in Manitoba in 1980 (Figure 2, Table 3). More than 40% of these came from Saskatchewan, 25% were from Alberta, 16% from Ontario and 15% from British Columbia. Only 2% of those with residence in the Atlantic provinces fished in Manitoba in 1980.

FIGURE 1: Estimated number of anglers by district of residence, 1980.

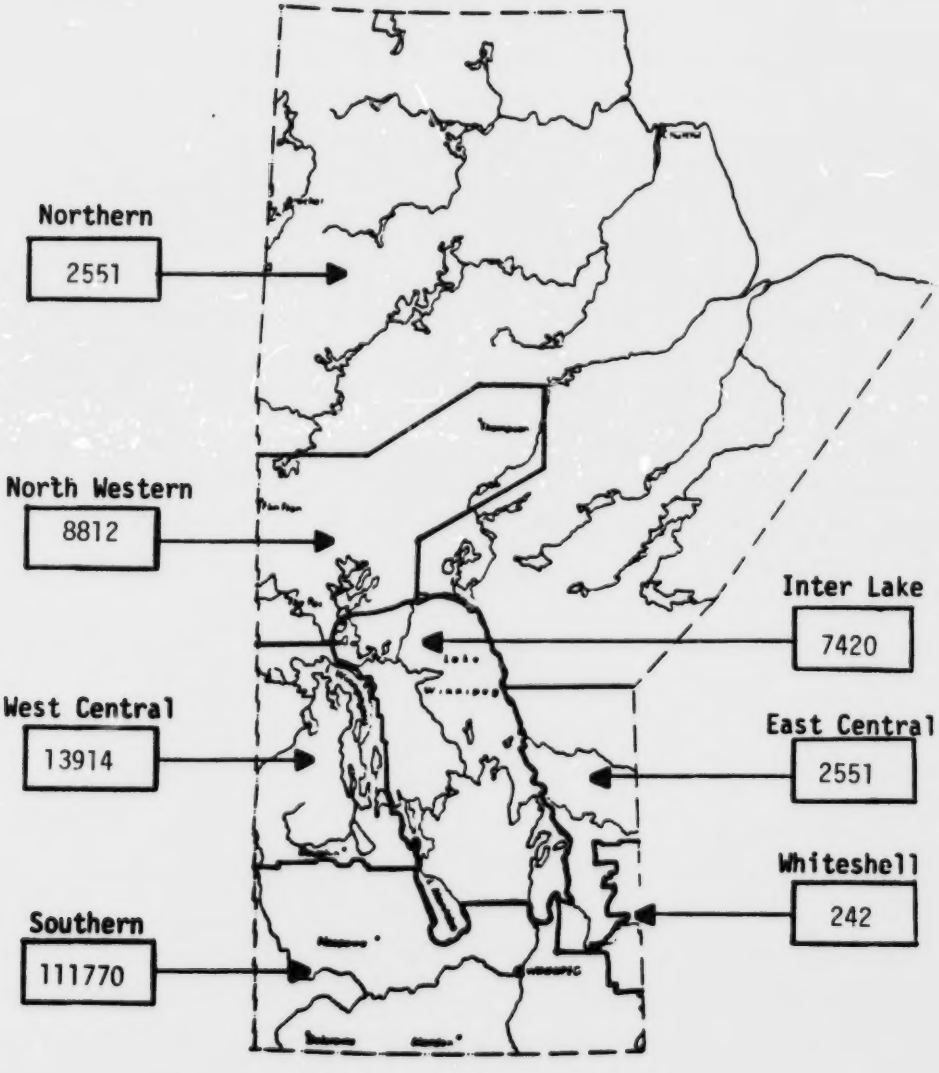


TABLE 2. Resident angling licence distribution and use in 1980.

Area	Issued		Used	
	no.	%	no.	%
Northern	2,551	1.7	2,087	81.8
North Western	8,812	6.0	7,884	89.5
West Central	13,914	9.5	12,754	91.7
Southern	111,770	75.9	102,260	91.5
Inter Lake	7,420	5.0	6,261	84.4
East Central	2,551	1.7	1,391	54.5
Whiteshell	232	0.2	232	100.0
TOTAL	**147,250**	**100.0**	**132,869**	**90.2**

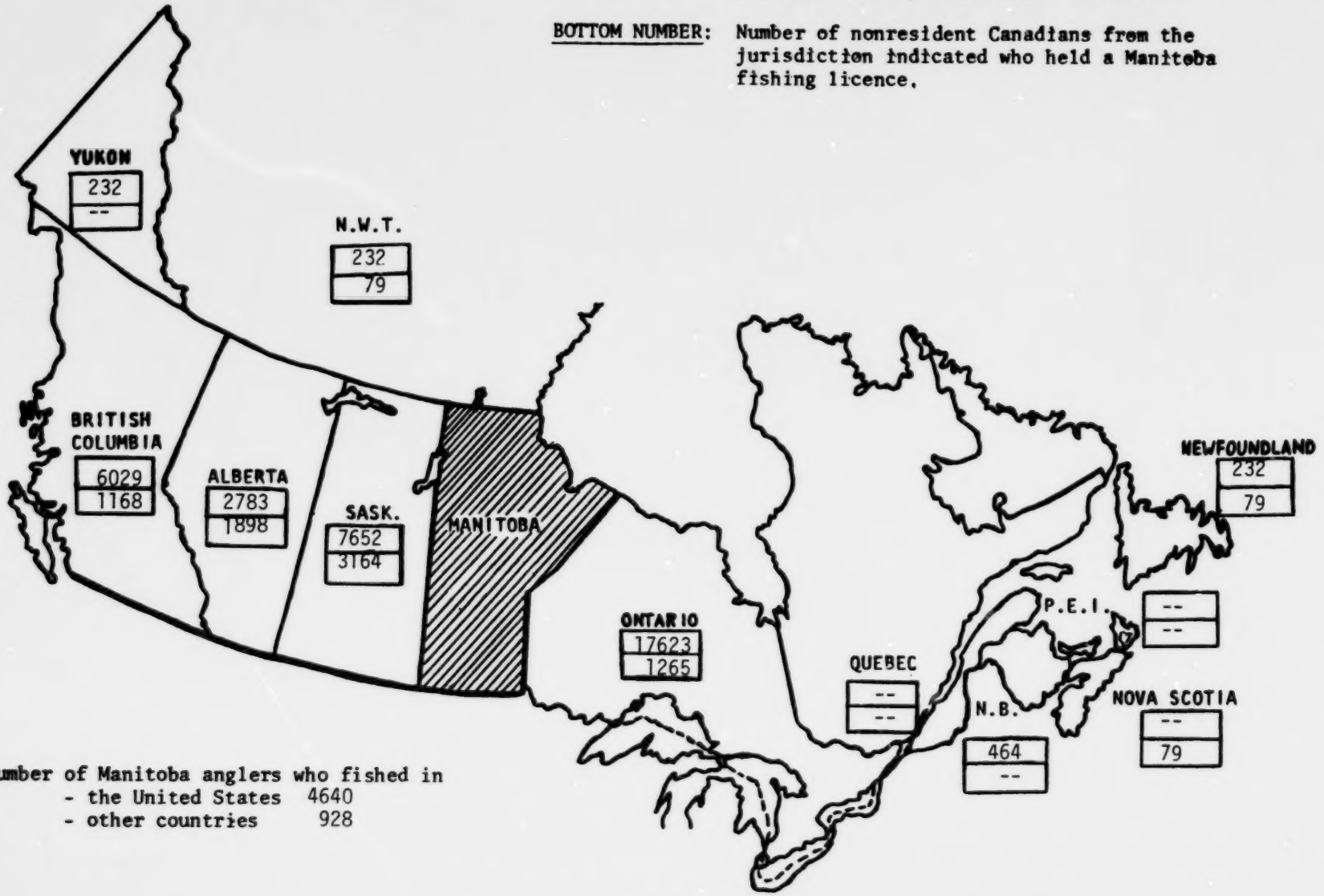
TABLE 3. Origin and numbers of nonresident anglers who held a Manitoba fishing licence in 1980.

Province/State Group	Number	Proportion of Total
Canadian		
Newfoundland	79	0.2
Nova Scotia	79	0.2
Ontario	1,265	2.6
Saskatchewan	3,164	6.5
Alberta	1,898	3.9
British Columbia	1,186	2.4
Northwest Territories	79	0.2
Canadian Total	**7,750**	**16.0**
Non-Canadian		
New England, U.S.A.	90	0.2
Mid Atlantic, U.S.A.	562	1.4
East North Central, U.S.A.	7,248	14.9
West North Central, U.S.A.	27,348	56.3
Mountain, U.S.A.	1,803	3.7
Pacific, U.S.A.	679	1.4
South Atlantic, U.S.A.	1,023	2.1
East South Central, U.S.A.	652	1.3
West South Central, U.S.A.	1,253	2.6
Europe	142	0.3
Non-Canadian Total	**40,800**	**84.0**
GRAND TOTAL	**48,550**	**100.0**

FIGURE 2: Numbers of Manitoba residents fishing elsewhere in Canada and nonresident Canadians fishing in Manitoba, 1980

TOP NUMBER: Number of Manitoba residents who fished at least one day in the jurisdictions indicated.

BOTTOM NUMBER: Number of nonresident Canadians from the jurisdiction indicated who held a Manitoba fishing licence.



Number of Manitoba anglers who fished in
- the United States 4640
- other countries 928

More than 40,800 American residents fished in Manitoba in 1980, of which the largest group (67%) came from the West North Central region of the United States. All areas of the United States showed an increase over 1975 figures in the number of anglers visiting Manitoba (Appendix A, Table A2). Figure 3 shows the distribution of origin of non-Canadians fishing in Manitoba in 1980.

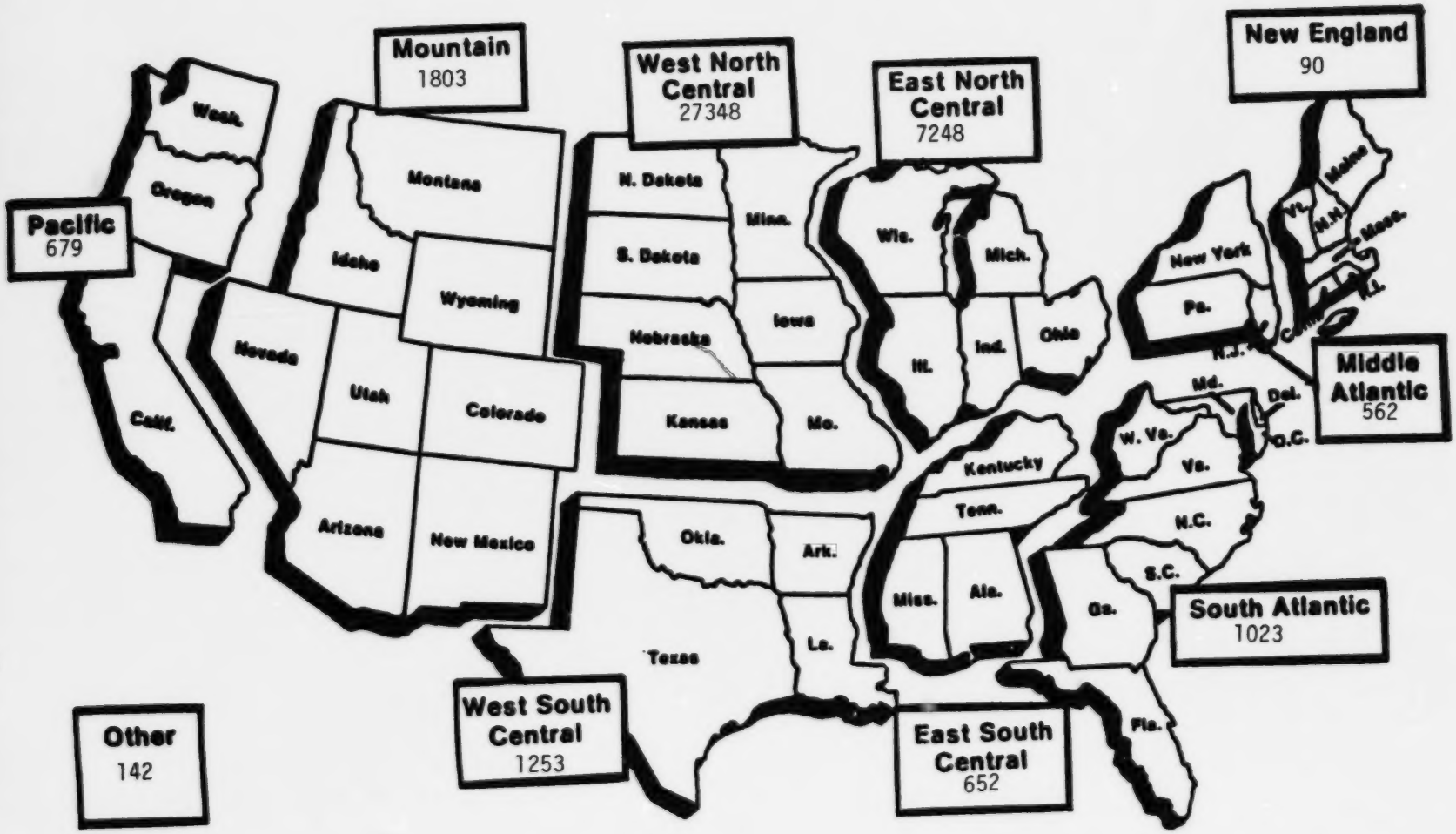
Motivations

Sportfishing appears to be a traditional activity in Manitoba (Table 4): in 1980, 81.6% of all resident anglers reported they had also fished in 1979, and 64.6% of them had also fished in 1975. There was more turnover among nonresident anglers in 1980, about 44.7% reported they had fished in 1979, and about 29.4% had also fished in Manitoba in 1975.

Over eighty percent of the trips made by nonresident anglers were those for which sportfishing was the primary reason for travel to Manitoba (Table 5). Nonresident Canadians indicated that about 61% of their trips to Manitoba were primarily for fishing whereas other nonresidents stated that 85% of their trips were for this purpose. Another 14.2% reported angling as a secondary reason and the remaining 4.6% indicated that their angling was decided after their arrival.

About 96% of nonresident anglers indicated their loyalty to fishing in Manitoba by stating they planned to return to Manitoba to fish (Table 6). However, 50% indicated they would not return if sportfishing was no longer available (Table 7).

FIGURE 3: Regional distribution and numbers of residents of the United States holding angling licenses in Manitoba, 1980.



As can be seen in Table 8, nonresident Canadians tended to stay with friends and relatives (40.7%) or in tents and trailers (25.2%). Only a small proportion of them (13%) stayed at fishing lodges whereas about 33% of other nonresidents utilized this type of accommodation. However, for other nonresidents, tent and trailer accommodation proved the most popular at just over 36%.

Table 9 indicates the importance of sportfishing as an attraction for visitors of Manitoba. In 1980 fishing occurred on over two-thirds of all nonresident trips to the province and, in total, on over half the days spent in the province.

TABLE 4. Fishing activity in Manitoba by active anglers who held Manitoba angling licenses in the previous five years.

Year	Resident	Nonresident		Total
		Canadian	Other	
No. of licences issued in 1980	147,250	7,750	40,800	195,800
No. who fished in 1980	132,869	7,513	39,939	180,311
% active	90.2	96.9	97.8	92.1
No. of 1980 anglers who fished in 1979	120,115	3,480	17,834	141,429
% of 1980	81.6	44.9	43.7	72.2
No. of 1980 anglers who fished in 1978	112,231	3,480	16,682	132,393
% of 1980	76.2	44.9	40.9	67.6
No. of 1980 anglers who fished in 1977	104,579	3,084	14,126	121,789
% of 1980	71.0	39.8	34.6	62.2
No. of 1980 anglers who fished in 1976	99,246	2,452	12,311	114,009
% of 1980	67.4	31.6	30.2	58.2
No. of 1980 anglers who fished in 1975	95,072	2,610	11,417	109,099
% of 1980	64.6	33.7	28.0	55.7

TABLE 5. Fishing trip motivation for nonresident anglers in Manitoba, 1980.

Motivation	Canadian		Other		Total	
	no.	%	no.	%	no.	%
Main reason	8,224	60.8	58,520	85.2	66,744	81.22.
Secondary reason	3,875	28.7	7,801	11.4	11,676	14.23.
Decide upon after arrival	1,423	10.5	2,341	3.4	3,764	4.6
TOTAL[a]	**13,522**	**100.0**	**68,662**	**100.0**	**82,184**	**100.0**

[a] Totals differ from the actual number of licenses issued: information is based on the total number of fishing trips made to Manitoba by nonresident anglers in 1980.

TABLE 6. Projected future participation by nonresident anglers in Manitoba in 1980.

Future fishing	Canadian		Other		Total	
	no.	%	no.	%	no.	%
Yes.	7,502	96.8	39,086	95.8	46,588	96.0
No	248	3.2	1,714	4.2	1,962	4.0
TOTAL	**7,750**	**100.0**	**40,800**	**100.0**	**48,550**	**100.0**

TABLE 7. Nonresident visit alternatives if there had been no fishing opportunities in Manitoba in 1980.

Alternative	Canadian		Other		Total	
	no.	%	no.	%	no.	%
Stayed a shorter time	1,721	22.2	8,568	21.0	10,289	21.2
Substituted other activities	4,828	62.3	9,058	22.2	13,886	28.6
Not come at all	1,201	15.5	23,174	56.8	24,375	50.2
TOTAL[a]	7,750	100.0	40,800	100.0	48,550	100.0

TABLE 8. Type of accommodation used by nonresident anglers in Manitoba in 1980.

Accommodation	Canadian		Other		Total	
	no.	%	no.	%	no.	%
Friends & relatives	3,954	40.7	6,038	12.7	9,992	17.4
Tent or trailer	2,452	25.2	17,287	36.4	19,739	34.5
Fishing lodge/camp	1,265	13.0	15,891	33.4	17,156	30.0
Other commerical lodging	1,423	14.6	4,973	10.5	6,396	11.2
Other	633	6.5	3,310	7.0	3,943	6.9

TABLE 9. Nonresident trip activity in Manitoba, 1980.

Trip Characteristic	Canadian		Other		Total	
	Number	Avg.	Number	Avg.	Number	Avg.
Trips made all purposes	22,855	2.9	97,705	2.4	120,560	2.5
Trips made fishing	13,128	1.7	67,396	1.7	80,524	1.7
Trips fished as % of all trips	57.4		69.0		66.8	
Days spent all purposes	132,950	17.2	439,301	10.8	572,251	11.8
Days spent fishing	46,850	6.2	294,990	7.4	341,840	7.2
Days fished as % of all days	35.2		67.1		59.7	

ANGLER FISHING EFFORT AND HARVEST

Fishing Effort

Anglers fished an estimated 2,853,933 days in 1980 (Table 10), an increase of over 13% from the 2,516,055 days reported for 1975 (Appendix A, Table A3). In all, about 82% of angling effort took place during the five month period from May to September. The remaining effort was split almost evenly between January to April and October to December. July was the most popular month for residents and nonresident Canadians while other nonresident activity peaked in June.

Residents, who accounted for 88% of all angling activity, fished an average of 18.9 days; nonresident Canadians, 6.2 days; and, other nonresidents, 7.4 days. No estimate of effort could be made for anglers under 16 years of age.

Another view of fishing effort is given (Table 11) on a quarterly basis. From this table it is noticeable that for the Canadian nonresident and resident group, the greatest activity occurs in the third quarter from July 1 to September 30 while for non-Canadian nonresidents it is the second quarter, from April 1 to June 30. The activity in the third quarter for Canadians (Manitobans and nonresidents) is greater than the three other quarters combined. This is also true for non-Canadian activity in the second quarter.

TABLE 10. Number of angler-days expended by anglers in Manitoba in each month, 1980.

Month	Resident	Nonresident		Total
		Canadian	Other	
January	67,858	323	1,735	69,916
February	78,534	--	988	79,522
March	81,428	161	--	81,589
April	33,160	81	2,434	35,675
May	261,340	3,393	52,433	317,166
June	502,459	9,126	120,228	631,813
July	544,361	16,639	50,740	611,740
August	444,092	11,957	28,262	484,311
September	264,818	3,878	27,241	295,937
October	100,380	484	4,364	105,228
November	47,528	242	3,202	50,972
December	86,135	566	3,363	90,064
ANNUAL TOTAL	**234,043**	**1,292**	**10,929**	**246,264**
Average/angler	18.9	6.2	7.4	15.8

TABLE 11. Quarterly fishing effort in Manitoba, 1980.

Quarter	Resident	Nonresidents		Total
		Canadian	Other	
1st Quarter	227,820	484	2,723	231,027
%	9.1	1.0	0.9	8.1
2nd Quarter	796,959	12,600	175,095	984,654
%	31.7	26.9	59.4	34.5
3rd Quarter	1,253,271	32,474	106,243	1,391,988
%	49.9	69.3	36.0	48.8
4th Quarter	234,043	1,292	10,929	246,264
%	9.3	2.8	3.7	8.6

Fishing Areas

The North Western areas of Manitoba continued to be the prime attraction for nonresident anglers with 29% of their angling effort occurring there (Figure 4). As in 1975, most residents fished throughout most of the province, with over 33% of their fishing activities occurring in the southern area.

In general, most resident anglers fished in only one area (Table 12) and that area tended to be the place where they lived (Table 13). Residents of the Northern area, for example, spent 100% of their angler days there. In contrast, East Central residents spent 49% of their angler days in the Whiteshell area with the remainder of their angler days in the East Central areas. Most residents fished in one or two areas.

FIGURE 4: Percentage of angler days expended by resident, nonresident, and total anglers in Manitoba, 1980.

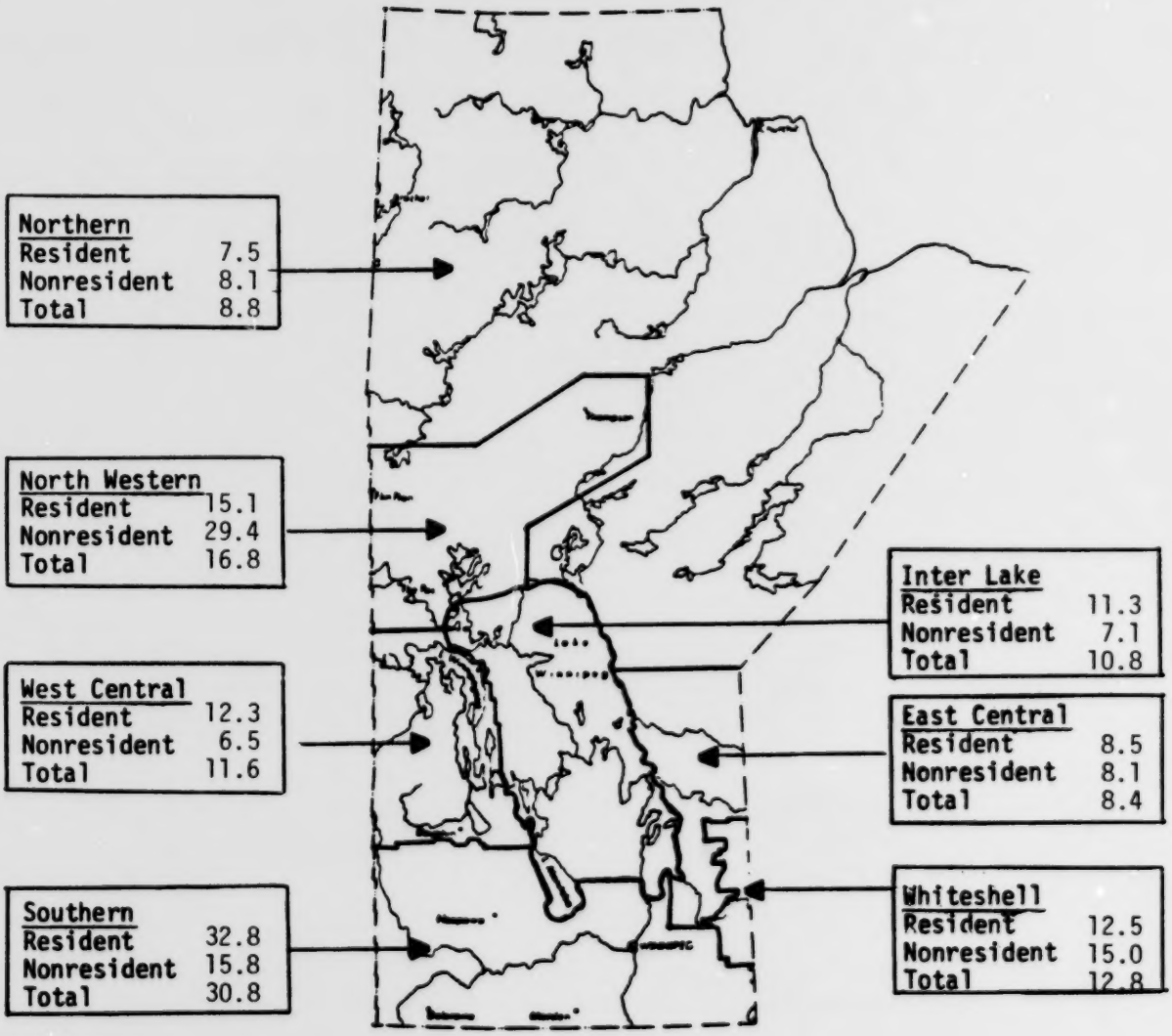


TABLE 12. Number of areas fished by anglers in Manitoba, 1980.

	Resident	Nonresident	
		Canadian	Other
	%	%	%
Fished one area only	64.3	80.9	85.9
Fished two areas	23.0	18.1	11.6
Fished three areas	8.0	1.1	1.7
Fished four areas	3.5	0	0.8
Fished five areas or more	1.2	0	0
TOTAL	**100.0**	**100.0**	**100.0**

Manitoba residents who fished elsewhere in Canada fished in the bordering provinces of Ontario and Saskatchewan. Only 696 residents fished in the Atlantic provinces in 1980. Only 928 residents fished on the Great Lakes (Table 14) as well as in one of Canada's national parks, (Table 15). Riding Mountain National Park in Manitoba was the only national park in which residents fished.

TABLE 13. Fishing effort expended by anglers in each area of Manitoba in 1980.

Region of Residence	Area Fished							
	Northern	North Western	West Central	Southern	Inter Lake	East Central	White-shell	Total
Northern	61,729	0	0	0	0	0	0	61,729
North Western	44,448	184,057	6,711	2,522	460	354	526	239,078
West Central	6,454	49,522	193,863	8,933	9,718	2,303	2,853	273,646
Southern	73,901	141,325	105,477	806,943	205,415	181,251	286,738	1,801,050
Inter Lake	1,472	3,566	4,160	6,377	67,482	6,567	2,443	92,067
East Central	0	0	0	0	0	21,797	21,566	43,363
Whiteshell	0	0	0	0	0	0	1,159	1,159
Resident Total	188,004	378,470	310,211	824,775	283,075	212,272	315,285	2,512,092
Nonresident Canadian	8,940	15,105	5,710	7,822	3,512	1,892	3,868	46,849
Other Nonresident	53,015	85,537	16,312	46,264	20,863	25,674	47,327	294,992
Nonresident Total	61,955	100.642	22,022	54,086	24,375	27,566	51,195	341,841
Total	**249,959**	**479,112**	**332,233**	**878,862**	**307,450**	**239,838**	**366,480**	**2,853,933**

TABLE 14. **Number of angler-days expended by anglers who fished on the Great Lakes in 1980.**

Great Lake	Days Fished			
		Nonresident		
	Resident	Canadian	Other	Total
Michigan	464	-	17,286	17,750
Ontario	-	2,610	1,345	3,955
Superior	-	-	1,830	1,830
Huron	-	-	703	703
Erie	464	-	-	464
TOTAL	**928**	**2,610**	**21,164**	**24,702**

TABLE 15. **Numbers of angler-days expended by anglers who fished in Canadian national parks in 1980.**

National Park	Days Fished			
		Nonresident		
	Resident	Canadian	Other	Total
Riding Mountain, Manitoba	25,044	1,107	1,866	28,017
Banff, Alberta	-	395	-	395
Jasper, Alberta	-	395	-	395
Cape Breton Highland, Nova Scotia	-	158	-	158
TOTAL	**25,044**	**2,055**	**1,866**	**28,965**

Fish Preferences, Harvest and Consumption

Both residents and nonresidents identified walleye as their preferred species for which to fish, and northern pike as their second preference. The third preference varied between residents and nonresidents: residents preferred perch and nonresidents chose lake trout (Table 16).

Anglers caught an estimated 10.7 million fish of all species (Table 17), of which they retained 5.6 million. (Table 18). Manitoba residents kept 56% of their catch, while nonresident Canadians kept 62% and nonresident non-Canadians, 37%. (Table 18).

Anglers' ability to catch and keep their preferred species was generally good. All three angler groups kept, in descending order of quantity, walleye, northern pike and lake trout. The number of these three species kept were: walleye, 2.5 million; northern pike, 1.7 million and lake trout, 0.1 million.

On average, residents each retained 35 fish of all species, including 16 walleye, 10 northern pike, and 8 lake trout. Nonresident Canadians kept 13 fish each, including 5 walleye and 4 northern pike. Nonresident non-Canadians each retained 22 fish, including 9.5 walleye, 9.1 northern pike, and 0.5 lake trout.

The harvest reported is that for active licensed anglers only. Since there were an estimated 49,890 youths under the licensing age reported fishing with their licensed families - a group equal in size to 27.7% of licensed active anglers - the actual harvest could be substantially higher. Since this youth group does not report its activities, no reliable data are available on their catch.

TABLE 16. Species preferences by anglers in Manitoba, 1980.

Species Preference	Resident	Nonresident	
		Canadian	Other
1.	Walleye	Walleye	Walleye
2.	Northern pike	Northern pike	Northern pike
3.	Perch	Lake trout	Lake trout
4.	Lake trout	Brook trout	Smallmouth bass
5.	Trout (general)	Perch	Trout (general)
6.	Rainbow trout	Rainbow trout	Bass (general)
7.	Bass (general)	Lake whitefish	Brook trout
8.	Smallmouth bass	Trout (general)	Perch
9.	Sauger	Bass (general)	Catfish
10.	Brook trout	Smallmouth bass	Grayling

TABLE 17. Number of fish caught by licensed anglers in Manitoba in 1980.

Species	Resident	Nonresident		Total
		Canadian	Other	
Northern pike	3,080,748	67,140	1,172,845	4,320,733
Walleye	2,835,385	55,966	864,656	3,756,007
Lake trout	243,248	3,717	71,747	318,712
Smallmouth bass	193,160	2,056	52,434	247,650
Rainbow trout	115,347	3,401	3,875	122,623
Brook trout	54,425	3,717	13,525	71,667
Other species	1,698,360	23,093	134,135	1,855,588
TOTAL	**8,220,673**	**159,090**	**2,313,217**	**10,692,980**

TABLE 18. Number of fish caught and retained by licensed anglers in Manitoba in 1980.

Species	Resident	Nonresident		Total
		Canadian	Other	
Walleye	2,088,610	35,871	380,888	2,505,369
Northern pike	1,340,170	31,395	362,323	1,733,888
Lake trout	106,556	3,480	18,443	128,479
Rainbow trout	59,658	3,084	3,005	65,747
Smallmouth bass	46,380	1,661	13,026	61,067
Brook trout	36,059	2,452	9,688	48,199
Other species	937,529	21,273	80,066	1,038,868
TOTAL	**4,614,962**	**99,216**	**867,439**	**5,581,617**

In 1980 the average kept catch per angler day for all species by resident and Canadian nonresident anglers was close, 1.8 and 2.1 fish respectively: for nonresident non-Canadians it was 2.9. Overall the two major species were walleye (0.9 fish per active angler per day) and northern pike (0.6 per angler per day).

Consumption of fish by all anglers is relatively uniform among the three angling groups. All anglers combined kept a total of 4.8 million kilograms (10.6 million lbs.) of fish (Table 19) and ate 3.88 million kilograms (8.60 million pounds) of them. In other words the average resident active angler's household ate 22.1 kg. of fish; the average nonresident, 20.0 kg. (10.6 kg. for Canadian nonresidents and 21.6 kg. for non-Canadians).

TABLE 19 Disposition of fish caught by anglers in Manitoba in 1980.

		Nonresident		
	Resident	Canadian	Other	Total
Total fish weight -lbs	8,139,238	212,277	2,292,075	10,643,590
-kgs	3,691,934	96,288	1,039,678	4,827,900
% eaten	84.5	87.9	86.8	85.7
% given away	13.6	10.9	11.7	13.1
% other uses	1.9	1.2	1.5	1.8
Fish weight eaten -lbs	6,470,514	175,431	1,915,430	8,561,375
-kgs	2,935,006	79,575	868,833	3,883,414

ANGLER EXPENDITURES AND INVESTMENTS

Expenditures

Anglers spent nearly $48.2 million on activities directly associated with sportfishing in Manitoba in 1980 (Table 20). Resident anglers spent $30.6 million, or $230 per angler; nonresident Canadians spent $1.2 million within the province, or $160 per angler; and other nonresidents spent $16.36 million within the province, or $410 per angler. Overall, anglers spent 19% more for sportfishing in Manitoba in 1980 than in 1975 (Appendix A, Table A5). Overall average expenditures per angler increased from $178 to $267 per angler.

TABLE 20. Direct expenditures by Active anglers in Manitoba in 1980.

Expenditure Category	Resident	Nonresident		Total
		Canadian	Other	
Travel costs	8,691,612	398,744	3,221,914	12,312,270
Food	6,640,000	326,992	2,756,613	9,723,605
Package	1,843,783	22,143	4,734,488	6,600,414
Fishing supplies	4,507,076	142,363	582,922	5,232,361
Lodging	2,075,858	112,554	1,800,495	3,988,907
Household boat costs	2,931,371	43,707	830,766	3,805,844
Campsite fees	1,256,935	52,502	424,585	1,734,022
Fishing licences	664,908	31,604	480,525	1,177,037
Bait	874,314	23,191	191,247	1,088,752
Boat rentals	499,066	24,314	371,480	894,860
Guide services	60,795	4,488	87,366	152,649
Other	547,182	18,821	878,469	1,444,472
TOTAL	**30,592,900**	**1,201,423**	**16,360,870**	**48,155,193**

Costs of travel and food accounted for just over 50% of the total annual expenditures by resident anglers (Table 21). These items also formed a significant proportion (65%) of nonresident expenses, and include costs incurred under the heading of "package trips".

TABLE 21. Distribution of direct expenditures by anglers in Manitoba in 1980.

Expenditure Category	Resident	Nonresident		Total
		Canadian	Other	
Travel costs	28.4	33.2	19.7	25.6
Food	21.7	27.2	16.8	20.2
Package	6.0	1.8	28.9	13.7
Fishing supplies	14.7	11.9	3.6	10.9
Lodging	6.8	9.4	11.0	8.3
Household boat costs	9.6	3.6	5.1	7.9
Campsite fees	4.1	4.4	2.6	3.6
Fishing licences	2.2	2.6	2.9	2.4
Bait	2.9	1.9	1.2	2.3
Boat rentals	1.6	2.0	2.3	1.8
Guide services	0.2	0.4	0.5	0.3
Other	1.8	1.6	5.4	3.0
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**

Fly-in operations to Manitoba were most popular among "package trips" comprising 50% of the total costs (Table 22). Nonresident anglers utilized package trips more than residents, spending $4.7 million, or 72% of the total.

TABLE 22. Costs to anglers' households of "package trips" to Manitoba in 1980.

Type	Resident	Nonresident		Total
		Canadian	Other	
	$	$	$	$
Fly-in	775,313	22,143	2,503,045	3,300,501
Lodge / weekend	85,799	-	2,003,455	2,089,254
All-inclusive	403,875	-	101,501	505,376
Outfitter	324,646	-	-	324,646
Charter boat	196,179	-	126,486	322,665
Fishing package	57,972	-	-	57,972

Investments

Anglers invested $57.3 million in 1980 on major durables and property used in whole or in part for sportfishing (Table 23). Almost all of the major purchases were made by residents, with boating equipment and special vehicles comprising 72% of the outlay.

Anglers were asked to indicate the relative amount of time each of their investments was used for sportfishing in 1980. Some items, such as fishing gear, were wholly attributable to sportfishing, whereas others, such as boats, were only partly used for this. Overall, anglers indicated that about 35.9 million, or 62.6% of the 57.3 million invested was used for sportfishing purposes (Table 23).

TABLE 23. Major angler purchases and investments attributable in whole or in part to angling within Manitoba in 1980.

Expenditures Category	Resident	Nonresident Canadian	Nonresident Other	Nonresident Total
		$	$	$
Boats, and related equipment	23,354,901	324,112	138,909	23,817,922
Special vehicles	16,555,768	--	1,180,540	17,736,308
Campers and related equipment	6,584,815	--	22,478	6,607,293
Cottages and land	3,942,125	--	--	3,942,125
Fishing gear	1,717,694	48,437	35,161	1,801,292
Other items	3,370,545	--	--	3,370,545
TOTAL	**55,525,848**	**372,549**	**1,377,088**	**57,275,485**
Proportion allocated to sportfishing	62.5	97.9	56.7	62.6
Total dollars invested in fishing	34,726,215	364,784	781,400	35,872,399
Average per angler	417.90	49.59	34.49	317.65

Boat Ownership and Use

Resident anglers owned 59,663 boats in 1980 with a market value of $106.5 million (Table 24). Almost two-thirds of the vessels were outboard motor boats, which, in turn, were used about 65% of the time for fishing (Table 25). There were 2,200 more boats in Manitoba in 1980 than in 1975 (Appendix A, Table A7). The total market value of all boats was up $44 million in 1980 from that in 1975, an increase of about 70%. In general,

boats were used less and there were fewer recreation days in 1980 than in 1975. The number of days used for fishing as a percentage of all recreation days increased from 49.6% to 53.5% from 1975 to 1980.

TABLE 24. Resident angler boat ownership information, Manitoba, 1980.

Boat Type	Number		Market Value 1980		Average Value
		%	$	%	$
Canoe	16,098	27.0	9,571,007	9.0	590
Rowboat	2,868	4.8	2,620,354	2.4	910
Outboard	36,399	61.0	69,602,997	65.3	1,910
Sailboat	541	0.9	1,024,422	1.0	1,890
Inboard - Outboard	1,187	2.0	7,832,076	7.3	6,600
Inboard	1,044	1.8	14,258,409	13.4	13,660
Other	1,526	2.5	1,659,944	1.6	1,088
TOTAL	**59,663**	**100.0**	**106,569,209**	**100.0**	

TABLE 25. Use of boats by resident anglers in Manitoba, 1980.

Boat Type	Days All Recreation		Days Fishing		Fishing as % of Recreation
	No.	%	No.	%	
Canoe	257,942	19.3	110,817	15.5	43.0
Rowboat	64,446	4.8	22,830	3.2	35.4
Outboard	899,334	67.2	523,226	73.0	58.2
Sailboat	10,423	0.8	2,319	0.3	22.2
Inboard - Outboard	46,448	3.5	24,503	3.4	52.8
Inboard	22,470	1.7	11,131	1.6	49.5
Other	37,143	2.7	21,527	3.0	58.0
TOTAL	1,338,206	100.0	716,353	100.0	53.5

ANGLER ATTITUDES AND COMMENTS

Conditions for a Successful Angling Trip

Respondents were asked to give their views and comments on several topics concerning sportfishing in Manitoba. The topics included conditions for a successful angling trip, fishing practices and techniques, subscriptions to outdoor publications, sources of travel information, the quality of the facilities available, and opinions regarding the commercial fishery.

When rating the eight factors which contribute to a successful angling trip respondents were decidedly negative about two factors: (1) personal service from lodge/outfitter was rated least important by 60.2% of residents and 52.4% of nonresident, and rated only moderately important by 15.6% of residents and 19.0% of nonresidents; and (2) the quality of accommodations was rated least important by 46.4% of residents nd 38.8% of nonresidents, and moderately important by 20.3% of residents and 28.0% of nonresidents. Neither factor had more than one-third of the ratings given as important or most important. Tables 29 and 30 indicate the response by residents and nonresidents.

The three factors relating to fish caught have moderately positive support among residents (ranging from 55.8% rating of important or most important for number of fish caught, to 58.0% rating for size of fish caught, to 68.5% for kind of fish caught) and a more positive support among nonresidents (62.0% for size of fish caught, 63.0% for number of fish caught, and 77.0% for kind of fish caught). While residents generally emphasized the "important" category, the nonresidents emphasized the "most important".

Being more personal in nature, the remaining three factors (remoteness or privacy, fishing companions, and appeal of surroundings) were generally the most important factors with both residents and nonresidents giving the "most important" designation in more than 40% of the ratings (the

range was 40.4% by residents for "remoteness or privacy" to 56.9% by residents for "fishing companions") and the "important" designation in more than 23% of the ratings (the range was 23.6% by nonresidents for "remoteness or privacy" to 28.2% by nonresidents for "appeal of surroundings").

TABLE 26. Rating of conditions for a successful angling trip by residents in Manitoba, 1980.

Conditions	No Opinion	Poor	Fair	Good	Excellent
Personal service from lodge	36.2	38.4	9.9	8.7	6.8
Kind of fish caught	25.0	7.7	15.9	22.5	28.8
Remoteness or privacy	25.5	8.3	16.5	19.5	30.2
Fishing companions	23.9	5.5	8.8	18.4	43.4
Number of fish	24.1	10.7	22.8	23.0	19.4
Surroundings	23.8	5.8	14.8	20.3	35.3
Accommodation	31.8	21.7	13.9	12.8	9.9
Size of fish	25.0	10.7	20.8	25.8	17.6

TABLE 27. Rating of conditions for a successful angling trip by nonresidents in Manitoba, 1980.

Conditions	No Opinion	Poor	Fair	Good	Excellent
Personal service from lodge	24.8	39.4	14.3	8.0	13.5
Kind of fish caught	14.1	9.6	18.7	26.2	31.3
Remoteness or privacy	14.6	14.1	15.8	20.1	35.3
Fishing companions	16.4	9.1	11.1	21.0	42.3
Number of fish	13.2	10.5	20.8	24.0	31.5
Surroundings	12.9	7.2	19.1	24.6	36.2
Accommodation	19.7	31.2	22.5	14.1	12.5
Size of fish	13.0	12.1	21.0	24.3	29.7

Views of Fishing Practices and Techniques

Although both residents and nonresidents were asked to indicate the extent of their agreement or disagreement with specific practices and techniques (Tables 31, 32). Residents were given six, while nonresidents were given seven topics to consider. The extra topic for nonresidents was size limits, with which they agree or agree strongly (79.8%).

Both residents and nonresidents support catch/release regulations: about 73% of each group supports this practice although not strongly agreeing. Yearly or special possession limits were less strongly supported: only about 63% of each group supported this item with 2.6 agrees for every one "agrees strongly" among residents, and 3.0 agrees for each "agrees strongly" among nonresidents.

Even though gear restrictions were supported by both residents and nonresidents, the support was very different between the two groups. Residents, by a ratio of 3.1 to 1, tended to agree rather than strongly agree, and gave a total of 63.0% of their ratings to these two forms of agreement. Nonresidents, on the other hand, by a ratio of 2.0 to 1, tended to agree rather than agree strongly, and gave a total of 79.0% of their ratings to these two ratings.

TABLE 28. Resident views of fishing practices and techniques.

Practice	No Opinion	Strongly Disagree	Disagree	Agree	Strongly Agree
Catch/release fegulations	18.3	4.9	17.3	41.9	17.6
Shorten season length	16.6	22.9	45.1	12.1	3.3
Gear restrictions	20.5	9.0	20.5	37.9	12.1
Special permit/stamp	23.5	13.1	25.2	32.2	6.0
Special possession limits	18.0	8.7	21.3	37.5	14.6
Specific lake regulations	19.2	4.9	10.6	45.5	19.8

TABLE 29. Nonresident views of fishing practices and techniques.

Practice	No Opinion	Strongly Disagree	Disagree	Agree	Strongly Agree
Catch/release regulations	15.1	4.8	17.0	44.3	18.7
Shorten season length	16.8	11.7	47.9	21.3	2.3
Size limits	13.5	2.8	14.7	45.9	23.2
Gear restrictions	15.2	3.5	14.3	45.6	21.4
Special permits/stamp	17.9	11.9	34.7	27.8	7.7
Yearly possession limits	14.4	10.8	21.3	40.1	13.4
Specific lake regulations	15.1	3.8	14.8	49.4	16.9

Neither residents nor nonresidents agreed with special permits/stamps: in fact, 50.1% of residents and 56.7% of nonresidents disagreed. And, these two groups even strongly disagreed with shortening the season length: 81.5% of residents and 71.7 of nonresidents did not support this idea. Disagreement rather than strong disagreement was emphasized by residents and nonresidents.

The final topic of the group was specific lake regulations which were strongly supported by both residents and nonresidents: residents agreed rather than agreed strongly by a ratio of 2.3 to 1, giving an overall rating of support by 80.8% of respondents; nonresidents, by a ratio of 2.9 to 1, agreed rather than disagreed, with overall support coming from 78.2% of the respondents.

Subscriptions to Outdoor Publications

Table 30 provides information on the subscriptions to various publications by anglers who fished in Manitoba in 1980. Residents held about

93,220 subscriptions to outdoor publications in 1980, and the top three publications were Outdoor Life (38.6%), Field and Stream (27.4%) Canadian Fish and Game (16.4%). Nonresidents held 57,540 subscriptions, including Outdoor Life (32.3%), Field and Stream (29.1%) and Sports Afield (17.7%).

TABLE 30. Number of anglers who subscribe to outdoor publications.

Publication	Resident		Nonresident	
	No.	%	No.	%
Outdoor Life	35,940	38.6	18,600	32.3
Field and Stream	25,510	27.4	16,740	29.1
Sports Afield	10,900	11.7	10,190	17.7
Other - CDN Fish & Game	15,310	16.4	2,720	4.7
- U.S. Fish & Game	1,620	1.7	5,180	9.0
- Sport - Recreation	1,620	1.7	1,280	2.2
- Others	3,250	2.4	2,830	5.0
TOTAL	**93,220**	**100.0**	**57,540**	**100.0**

Source of Travel Information for Nonresidents

Nonresidents gave 68,670 responses to this question identifying seven sources of travel information (Table. 34). The single most important source was friends and relatives (47.4% of responses), the next most important was the Manitoba Tourism Department (16.4%), and the third was the Manitoba Department of Natural Resources (11.8%).

TABLE 31. Source of travel information for nonresidents in Manitoba, 1980. 1980.

Source	Number	%
Friends/relatives	32,540	47.4
Manitoba tourism	11,280	16.4
Manitoba Natural Resources	8,130	11.8
Lodge/outfitter	6,090	8.9
Sport/travel shows	4,630	6.8
Travel agent	640	0.9
Other	5,360	7.8
TOTAL	**68,670**	**100.0**

Views on the Quality of Facilities Available

Both residents and nonresidents gave positive responses of good/excellent to the five topics covered in this question: transportation services, accommodations, guide services, food services, and quality of angling. Although both groups of respondents emphasized the "good" rating over the "excellent", nonresidents tended to respond more favourably in both categories than residents. The least supported topic by both residents and nonresidents was the quality of angling (residents gave good/excellent in 55.9% of responses; nonresidents, 68.5%). However, very strong support was given by both residents and nonresidents to transportation services (residents, 84.2%; nonresidents, 90.8%) see Table 35 and 36 for the number of responses in each category.

TABLE 32. Resident anglers view on the quality of the facilities available in Manitoba.

Category	No Reply	No Opinion	Poor	Fair	Good	Excellent
Transportation services	39.7	28.3	1.1	3.9	18.1	8.9
Accommodation	35.4	28.0	1.1	7.1	22.2	6.2
Guide services	56.1	34.9	0.9	2.7	2.7	2.7
Food services	34.0	27.9	1.7	9.9	21.3	5.2
Quality of angling	5.7	21.7	9.0	23.0	28.2	12.4

TABLE 33. Nonresident anglers' view on the quality of the facilities available in Manitoba.

Category	No Reply	No Opinion	Poor	Fair	Good	Excellent
Transportation services	28.4	25.1	1.2	3.1	26.0	16.3
Accommodation	17.3	18.6	0.5	9.3	33.5	20.8
Guide services	41.9	43.2	0.9	2.4	5.9	5.7
Food Services	16.2	18.8	2.9	10.6	34.4	17.1
Quality of angling	2.2	9.6	10.5	17.3	32.9	27.5

Opinions Regarding Commercial Fisheries

Altogether there were fourteen different opinions given in response to this question. Slightly more than 26% of the responses of residents and of nonresidents were that commercial fisheries have no place in an angling lake but should have lakes specifically managed for commercial use. Approximately 20% of the responses of both groups indicated though, that the commercial fisheries are valuable in monitoring species balance if they can concentrate on non-sports species. At the same time nonresidents believedthat commercial fisheries ruin angling. Residents, however, in about 18% of responses felt that lakes can be zoned for commercial fishing as well as angling. Generally it was believed that commercial fishing and sport angling are not compatible simultaneous resource uses. See Table 37.

TABLE 34. Opinions regarding commercial fisheries.

	Resident		Nonresident	
		%		%
Special lakes for use	61,450	26.1	23,860	26.7
Monitoring species balance	48,470	20.6	17,130	19.2
Zoned commercial and angling	42,200	17.9	9,930	11.1
Ruins angling	27,830	11.8	17,150	19.2
Will not fish commercial lake	22,730	9.7	13,570	15.2
Commercial winter, angling summer	21,570	9.2	6,120	6.8
Other	10,910	4.7	1,680	1.8

APPENDIX A

COMPARISON OF RESULTS OF 1975 AND 1980 SURVEYS

TABLE A1. Comparison of the number and characteristics of anglers who fished in Manitoba in 1975 and 1980.

Characteristics	Resident			Nonresident			Total		
	1975	1980	% change	1975	1980	% change	1975	1980	% change
Angler population (Licensed)	135,113	147,250	+9.0	43,796	48,550	+10.9	178,909	195,800	+9.4
Estimated nonactive anglers	8,332	14,381	+72.6	1,022	1,108	+8.4	9,354	15,489	+65.6
Estimated active anglers	126,781	132,869	+4.8	42,774	47,442	+10.9	169,555	180,311	+6.3
Males	100,007	109,448	+9.4	36,297	42,166	+16.2	136,304	152,514	+11.9
Females	26,774	23,421	-12.5	6,477	4,376	-32.4	33,251	27,797	-16.4
Estimated anglers under 16 years of age	55,426	42,958	-22.5	8,350	6,932	-16.9	63,776	48,890	-21.8
Total estimated active anglers of all ages	182,207	175,827	-3.5	51,124	54,374	+6.4	233,331	230,201	-1.3

TABLE A2. Comparison of the origin and numbers of nonresident anglers who held Manitoba fishing licences, 1975 and 1980.

ORIGIN	1975	1980	% Change
CANADIANS			
Maritimes	54	158	+192.6
Quebec	163	0	-100.0
Ontario	1,520	1,265	-16.8
Saskatchewan	3,420	3,163	-7.5
Alberta	1,140	1,898	+66.5
British Columbia	814	1,186	+45.7
Territories	0	79	...
TOTAL	**7,111**	**7,749**	**+9.0**
NON-CANADIANS			
New England	--	90	...
Mid-Atlantic	527	562	+6.6
East North Central	6,921	7,248	+4.7
West North Central	25,308	27,349	+8.1
Mountain	1,328	1,803	+35.8
Pacific	758	679	-10.4
South Atlantic	686	1,023	+49.1
East South Central	137	652	+375.9
West South Central	960	1,253	+30.5
Other U.S.A.	...	...	...
Other Countries	...	142	...
TOTAL	**36,685**	**40,801**	**+11.2**

TABLE A3. Comparison of angler-days expended per month by anglers in Manitoba, 1975 and 1980.

Month/Season	Resident			Nonresident			Total		
	1975	1980	% change	1975	1980	% change	1975	1980	% Change
January	29,501	67,858	+130.0	6,520	2,058	-68.4	36,021	69,916	+94.0
February	29,871	78,534	+162.9	2,769	988	-64.3	32,640	79,522	+143.6
March	34,351	81,428	+137.0	3,044	161	-94.7	37,395	81,589	+118.1
April	31,322	33,160	+5.8	3,408	2,515	-26.3	34,730	35,675	+2.7
May	216,059	261,340	+21.0	24,242	55,826	+130.6	240,301	317,166	+32.0
June	469,972	502,459	+6.9	109,782	129,354	+17.8	579,754	631,813	+9.0
July	535,037	544,361	+1.7	61,317	67,379	+9.9	596,354	611,740	+2.5
August	464,476	444,092	-4.4	37,973	40,219	+5.9	502,449	484,311	-3.6
September	263,188	264,818	+0.6	29,073	31,119	+6.7	292,261	295,937	+1.3
October	90,440	100,380	+11.0	7,793	4,848	-37.7	98,233	105,228	+7.1
November	27,641	47,528	+71.9	932	3,444	269.5	28,573	50,972	+78.4
December	36,248	86,135	+137.6	1,096	3,929	258.5	37,344	90,064	+141.2
YEAR	**2,228,106**	**2,512,093**	**+12.7**	**287,949**	**341,840**	**+18.7**	**2,516,0552**	**2,853,933**	**+13.4**
Average/angler	17.6	18.9	+7.4	6.7	7.2	+7.5	14.8	15.8	+6.8

TABLE A4. Comparison of the number of fish caught and retained by licensed anglers in Manitoba, 1975 and 1980.

Species	Resident			Nonresident			Total		
	1975	1980	% change	1975	1980	% change	1975	1980	% change
Walleye	1,560,106	2,088,610	+33.9	475,470	416,759	-12.3	2,035,576	2,505,369	+23.1
Northern Pike	1,009,194	1,340,170	+32.8	292,809	393,718	+34.5	1,302,003	1,733,888	+33.2
Trout	195,480	202,273	+3.5	59,371	40,152	-32.4	254,851	242,425	-4.9
Smallmouth Bass	125,098	46,380	-62.9	7,676	14,687	+91.3	132,774	61,067	-54.0
Other	249,150	937,529	-17.2	95,409	101,339	+6.2	1,227,625	1,038,868	-15.4
Total Kept	4,022,094	4,614,962	+14.7	930,735	966,655	+3.9	4,952,829	5,581,617	+12.7
Average Kept	31.7	34.7	+9.5	21.7	20.4	-6.0	29.2	31.0	+6.2

TABLE A5. Comparison of direct expenditures[a] made by active anglers in Manitoba, 1975 and 1980.

Expenditure Category	Resident			Nonresident			Total		
	1975	1980	% change	1975	1980	% change	1975	1980	% change
	$	$		$	$		$	$	
Food and lodging	9,080,249	10,787,113	+18.8	4,640,432	7,578,697	+63.3	13,720,681	18,365,310	+33.9
Transportation	8,030,036	12,652,447	+57.6	2,390,867	7,146,805	+198.9	10,420,903	19,799,252	+90.0
Fishing services	1,603,050	2,099,083	+30.9	1,346,035	1,215,215	-9.7	2,949,085	3,313,298	+12.4
Fishing gear	3,358,089	4,507,076	+34.2	479,493	725,285	+51.3	3,837,582	5,232,361	+36.3
Other	207,615	547,182	+163.6	874,025	897,290	+2.7	1,081,640	1,444,472	+33.5
TOTAL	**22,279,039**	**30,592,900**	**+37.2**	**9,730,852**	**17,562,293**	**+80.5**	**32,009,891**	**48,155,193**	**+50.4**
Avg. per angler	**175.73**	**230.25**	**+31.0**	**212.58**	**370.18**	**+74.1**	**188.79**	**267.07**	**+41.5**

[a] In 1980, respondents were asked a specific question on package deals which they had purchased. These costs have been distributed across the broad categories above according to the type of package specified. Some errors may occur using this technique since in many cases the package itself includes benefits which would normally be attributed to another category. For example, a fly-in package would include transportation as well as food and lodging costs. No correction factor can be calculated for these situations.

TABLE A6. Comparison of major angler purchases and investments attributable in whole or in part to angling within Manitoba, 1975 and 1980.[1]

Expenditures Category	Resident		Nonresident		Total	
	1975	1980	1975	1980	1975	1980
	$	$	$	$	$	$
Fishing Gear	68,839	1,717,694	1,186	1,801,292	70,025	1,801,292
Boats, Motors and Related Equipment	13,678,931	23,354,901	21,739	23,817,922	13,700,670	23,817,922
Campers and Related Equipment	10,863,841	6,584,815	4,894	6,607,293	10,868,735	6,607,293
Special Vehicles	1,919,522	16,555,768	55,057	17,736,308	1,974,579	17,736,308
Cottages and Land	7,868,483	3,942,125	1,652,553	3,942,125	9,521,036	3,942,125
Other Items	--	3,370,545	9,045	3,370,545	9,045	3,370,545
TOTAL	**34,399,616**	**55,525,848**	**1,744,474**		**36,144,090**	**57,275,485**
Avg./angler	**271.33**	**417.90**	**39.83**	**36.88**	**213.17**	**317.65**

[1] Due to dramatic changes in the expenditure activities of both residents and nonresidents, no percentage changes are calculated for this table.

TABLE A7. Comparison of boating characteristics, 1975-80, for residents of Manitoba who held a 1980 angling licence.

Characteristic	1975	1980	% Change
Number	57,463	59,663	+3.8
Market value ($)	61,841,575	106,569,209	+72.3
Days recreation	1,494,761	1,338,206	-10.5
Days fishing	741,465	716,353	-3.4
Fishing as a % of recreation	49.6	53.5	+7.9

APPENDIX B

METHODOLOGY

METHODOLOGY

The 1980 survey of sportfishing was the second survey carried out by the Province of Manitoba in conjunction with the federal Department of Fisheries and Oceans. The survey formed part of the quinquenniel Surveys of Sportfishing in Canada which began in 1975 and cover all jurisdictions in Canada. Due to the varying nature of licensing regulations across Canada, the methodology used was developed on the basis of regulations in the jurisdiction under study. The purpose of this section is to describe the approach used in Manitoba.

I. SAMPLING METHODOLOGY

All anglers in Manitoba, 16 years of age and older, require an angling licence. Records for 1980 licence sales were used as the frame for selecting the required sample. Although the receipts for all licence sold had not been received by December, 1980, it was agreed that there were sufficient returns in each category (approximately 85%) to allow for a representative sample of anglers for the survey.

The licensing files were stratified by licence-type and origin. For each stratum, a systematic random sample of licence holders was drawn resulting in a total of 2,300 prospective respondents.

II. MAILING

All mailing operations were handled by the staff of the Manitoba Department of Natural Resources. Questionnaires, covering letters and postage-paid return envelopes were mailed during the second week of January, 1981. Two follow-up mailings to nonrespondents were conducted after six and twelve weeks from the original mailing. Questionnaires returned by April 30, 1981 were used in the analysis of the survey. The useable return rate from three mailings for both resident and nonresident anglers was 50%.

III. CODING, EDITING AND DATA CAPTURE

These operations were conducted by staff hired by the Department of Fisheries and Oceans in Ottawa. Particular emphasis was placed on the quality of the information received and the degree of substitution found. Any questionnaires which were inconsistent, incomplete or answered by someone other than the person named on the questionnaire were discarded as unuseable. Questionnaires were key-punched and verified by staff at Dominion Computer Support Services.

IV. DATA PROCESSING AND ESTIMATION PROCEDURES

All data processing was performed by staff of the Surveys Unit, Department of Fisheries and Oceans, Ottawa. There were a number of distinct procedures used to derive the estimates contained in this report and each is described below. Where necessary, cautionary notes concerning use of specific data are included. All data processing was performed using Statistical Package for the Social Sciences (SPSS) Version 9.0.

A. Editing and Updating

After receipt of the tape containing the raw data, an SPSS system file was created. These data were then edited to assess keypunch errors, inconsistencies and improper coding. All errors were corrected and a new file created.

Included in the update procedure was the creation of aggregated data on each questionnaire in order to provide estimates of activity patterns, sub-provincial estimates and totals as requested by the province.

B. Weighting

Two weighting procedures were used to develop estimates for this report.

First, all estimates for angler profiles, activity, harvest, preferences and other angler-related data were produced by calculating a respondent weight in each stratum. The stratum weights were developed using an inverse proportional weighting procedure, that is, each stratum population was divided by the appropriate stratum sample. No adjustments were made for

nonresponses. Although biases may be present, no significant differences were found when comparing the results of individual mailings on such variable as average effort and average expenditures.

Second, estimates of investment, direct expenditures, income and activity of unlicensed anglers were derived using household weights. These weights were calculated by dividing the respondent weights by the number of licensed anglers in the household. The number of licensed anglers was determined from responses given in the household profile question.

C. Treatment of Partial Responses

Where possible, stratum averages were used to adjust for partial responses in order to obtain population estimates. In the case of residents, substitution of cell averages was further based on their region of residence. Although it is recognized that some error may be incurred using this procedure, the number of cases requiring such substitution was less 0.5%.

V. RELIABILITY

Although no estimates of reliability are provided in this report, coefficients of variation of the mean were calculated for such variables as angler effort, harvest and expenditures. At the provincial level, the coefficients calculated were less than 10% at one standard deviation indicating a high degree of reliability. Estimates at sub-provincial levels had higher coefficients of variation and judgement of their usefulness is left to the reader.

APPENDIX C

QUESTIONNAIRES

MANITOBA
DEPARTMENT OF NATURAL RESOURCES

Government of Canada / Gouvernement du Canada
Fisheries and Oceans / Pêches et Océans

SURVEY OF SPORT FISHING
1980

SECTION A
YOUR PERSONAL FISHING ACTIVITIES

1. Did you fish for sport in Manitoba in 1980? (Include ice fishing)
   YES _____ NO _____ If no, please go to Question 8, page 4.

2. Would you please indicate the number of days you spent fishing each month in Manitoba in 1980. A "day" is all or any part of a day fished.

Jan ____	Apr ____	July ____	Oct ____
Feb ____	May ____	Aug ____	Nov ____
Mar ____	June ____	Sept ____	Dec ____

3. Did you catch any fish in Manitoba in 1980?
   YES _____ NO _____

   If yes, please indicate below
   a) the number of each species you caught and kept in 1980 in Manitoba. Please add more species names as required.

Species	Number caught	Number kept
Lake trout		
Rainbow trout		
Brook trout		
Walleye		
Northern pike		
Smallmouth bass		

   b) please estimate the total weight of the fish you kept. _____ lbs.

   c) what percentage of the above was:

   eaten by your household _____ %

   given to others _____ %

   other uses _____ %

4. In how many of the Areas shown on the map on page 3 did you fish in 1980?
   _____

5. In the appropriate boxes alongside the map, please indicate the number of days you fished in each of the Areas in 1980.

6. If you caught and kept fish from more than one Area of the province in 1980, please use the boxes below to indicate your catch by species in each of the Areas you fished. If you fished in only one Area, please go to Question 7.

Area Number ____

Species	Number Caught	Number Kept

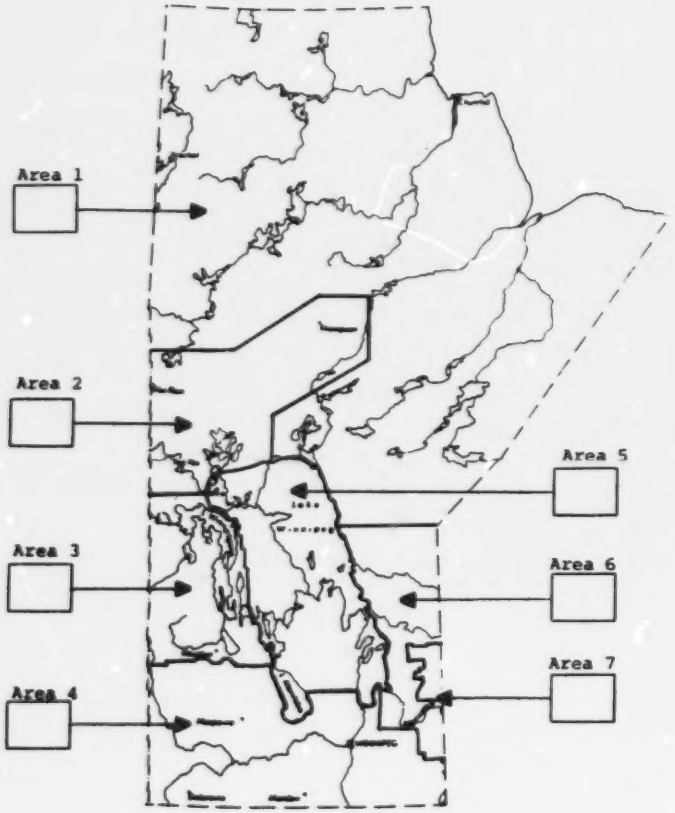
Area Number ____

Species	Number Caught	Number Kept

Area Number ____

Species	Number Caught	Number Kept

Question 6 is continued on page 4.



6. (Continued)

Area Number ____

Species	Number Caught	Number Kept

Area Number ____

Species	Number Caught	Number Kept

Area Number ____

Species	Number Caught	Number Kept

7. Of the species available in Manitoba, which do you prefer to catch?

FIRST _____ SECOND _____ THIRD _____

8. If you fished for sport in Manitoba in any of the years listed below, please mark those years with an "x".

1975 ____ 1976 ____ 1977 ____ 1978 ____ 1979 ____

9. Did you fish for sport OUTSIDE Manitoba in 1980?

YES _____ NO _____

If yes, please indicate below:

a) the name(s) of the province, territory, state or country where you fished, the days fished by type of water and the name of any particular species you were fishing for.

WHERE YOU FISHED	DAYS FISHED		PARTICULAR SPECIES FISHED FOR
	Fresh	Salt	
_____	___	___	_____
_____	___	___	_____
_____	___	___	_____
_____	___	___	_____

b) the name(s) of any National Parks in Canada or any of the Great Lakes (Superior, Huron, Ontario, etc.) where you fished and the number of days fished.

National Parks	Days Fished	Great Lakes	Days Fished
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SECTION B
EXPENDITURES ON SPORTFISHING BY YOU AND/OR MEMBERS OF YOUR HOUSEHOLD

10. Did you and/or members of your household make any major purchases or investments in Manitoba in 1980 for purposes relating in whole or part to sportfishing? (e.g. boats, recreational vehicles, tents, etc.)

YES _____ NO _____

If yes, please describe the items below:

Item purchased	Price	Percentage use for sportfishing
_____	$_____	_____ %
_____	$_____	_____ %
_____	$_____	_____ %

11. Please estimate as best you can the present market value of the sportfishing gear and equipment owned and used by you and members of your household solely for sportfishing.

$ _____

11. Did you and/or members of your household purchase any "package" or so-called all-inclusive sport fishing trips, tours or outings in Manitoba in 1980 (for example, fly-in fishing camps, going out on guide or charter boats, and so on, where the price includes transportation, plus a wide range of other facilities such as lodging, food, tackle, bait, etc.)?

YES _____ NO _____

If yes, please describe the "package(s)" below.

Type of Package	Number of Area Fished	For you and your household	
		Number of anglers	Cost to household
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

13. EXCLUDING major purchases, investments and package tours, please estimate below the amount of money you and/or members of your household spent for sportfishing in Manitoba in 1980:

1. Lodging (hotel, motel, cabin, etc.)	$_____
2. Campsite fees	_____
3. Food (restaurant, meals, groceries and beverages)	_____
4. Travel costs within Manitoba (by car, air, u-drives, etc.)	_____
5. Boat rentals	_____
6. Fishing tackle and supplies (rods, reels, special clothing, etc.)	_____
7. Bait	_____
8. Household owned boat costs (gas, repairs, storage, etc.)	_____
9. Guide services	_____
10. Fishing licences, permits and access fees	_____
11. Other (please specify) _____	_____
_____	_____

14. If you or members of your household fished in Canada outside Manitoba in 1980, please estimate how much was spent elsewhere for sportfishing in 1980:

$ _____ spent in other parts of Canada

SECTION C
HOUSEHOLD OWNERSHIP OF BOATS AND FISHING GEAR

15. How many boats are owned by your household which are used for sportfishing or other recreational purposes?

_____ boats (If none, please go to Question 18).

16. Please provide the following information on your boats:
(Type codes: 1. canoe, 2. rowboat, 3. outboard, 4. sailboat, 5. inboard-outboard, 6. inboard, 7. houseboat, 8. skiff, other)

Characteristic	Boat 1	Boat 2	Boat 3	Boat 4
Type (use code #)	_____	_____	_____	_____
Length (in feet)	_____ ft	_____ ft	_____ ft	_____ ft
Horsepower	_____ hp	_____ hp	_____ hp	_____ hp
Present market value	$_____	$_____	$_____	$_____
Number of days for all recreation in Manitoba in 1980 (including sportfishing)	_____	_____	_____	_____
Number of days used for sportfishing	_____	_____	_____	_____
Is the boat usually (✓):				
- kept moored	__	__	__	__
- transported by trailer	__	__	__	__
- carried by car-top	__	__	__	__

17. If any of your boats are usually kept moored, where do you moor them?

_____ PLACE/HARBOUR _____

SECTION D
YOUR OPINIONS ON SPORTFISHING IN MANITOBA

18. Please rate (most important) 1 2 3 4 5 6 7 8 (least important) the following as they relate to the success of your angling trip.

personal service from lodge/outfitter	____	number of fish caught	____
kind of fish caught	____	appeal of surroundings	____
remoteness or privacy	____	quality of accomodation	____
fishing companions	____	size of fish caught	____

19. What do you consider to be a high quality size fish (in pounds) for each of the following species?

Northern pike	____	Smallmouth bass	____
Lake trout	____	Lake whitefish	____
Walleye	____	Arctic grayling	____
Brook trout	____		

20. Listed below are a number of practices or techniques which are either currently in use or may be introduced to maintain or increase the quality of angling. Please indicate how strongly you agree or disagree with each practice.

	Strongly Agree	Agree	Disagree	Strongly Disagree
catch/release regulations (barbless hooks)	____	____	____	____
shortening season lengths	____	____	____	____
gear restrictions (e.g. number of hooks)	____	____	____	____
special permits/stamps (e.g. trophy stamps)	____	____	____	____
yearly possession limits	____	____	____	____
specific lake regulations	____	____	____	____

21. Considering the price which you paid for your fishing activities, please rate the facilities used and the services which you received in Manitoba in 1980.

	Excellent	Good	Fair	Poor	Does not apply
Transportation services	____	____	____	____	____
Accommodations	____	____	____	____	____
Guide services	____	____	____	____	____
Food services	____	____	____	____	____
Quality of angling	____	____	____	____	____

22. What are your opinions regarding commercial fisheries? (You may check more than one).

They are valuable in maintaining species balance if they can concentrate on non-sports species. ____

They have no place in an angling lake but should have lakes specifically managed for their use. ____

Lakes can be zoned for their use as well as angling. ____

I will not fish in a lake that is commercially fished. ____

Commercial fisheries ruin angling. ____

Commercial fisheries should take place in the winter, angling in the summer. ____

Other (please specify) _____

_____

_____

OTHER COMMENTS

_____

_____

_____

_____

_____

SECTION E
HOUSEHOLD PROFILE

To help us analyse all the information provided, we would appreciate some information about you and your household. ALL ANSWERS ARE CONFIDENTIAL.

23. Person who completed the questionnaire:

Your age: _____ years
Your sex: Male _____ Female _____

24. Would you please provide the following information about other members of your household. (If no days were fished, please enter "0").

	Age	Sex		Number of days fished in Manitoba in 1980
		Male	Female	
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____

25. Which of the following outdoor publications, if any, do you subscribe to or regularly read?

_____ Sports Afield
_____ Outdoor Life
_____ Field and Stream
_____ Other (please specify)
_____
_____

YOUR COOPERATION AND ASSISTANCE ARE APPRECIATED

MANITOBA
DEPARTMENT OF NATURAL RESOURCES

Government of Canada / Gouvernement du Canada
Fisheries and Oceans / Pêches et Océans

SURVEY OF SPORT FISHING 1980

SECTION A
YOUR PERSONAL FISHING ACTIVITIES

1. Did you fish for sport in Manitoba in 1980? (Include ice fishing)
   YES _____ NO _____ If no, please go to Question 9, page 4.

2. Would you please indicate the number of days you spent fishing each month in Manitoba in 1980. A "day" is all or any part of a day fished.

Jan _____	Apr _____	July _____	Oct _____
Feb _____	May _____	Aug _____	Nov _____
Mar _____	June _____	Sept _____	Dec _____

3. Did you catch any fish in Manitoba in 1980?
   YES _____ NO _____

   If yes, please indicate below
   a) the number of each species you caught and kept in 1980 in Manitoba. Please add more species names as required.

Species	Number caught	Number kept
Lake trout		
Rainbow trout		
Brook trout		
Walleye		
Northern pike		
Smallmouth bass		

   b) please estimate the total weight of the fish you kept. _____ lbs.

   c) what percentage of the above was:

   eaten by your household _____%
   given to others _____%
   other uses _____%

4. In how many of the Areas shown on the map on page 3 did you fish in 1980?
   _____

5. In the appropriate boxes alongside the map, please indicate the number of days you fished in each of the Areas in 1980.

6. If you caught and kept fish from more than one Area of the province in 1980, please use the boxes below to indicate your catch by species in each of the Areas you fished. If you fished in only one Area, please go to Question 7.

Area Number _____

Species	Number Caught	Number Kept

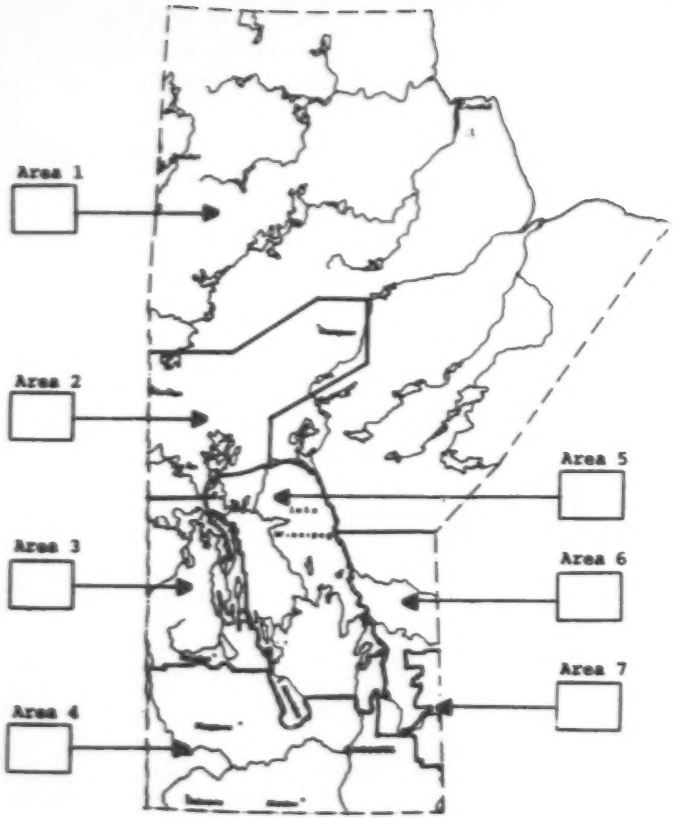
Area Number _____

Species	Number Caught	Number Kept

Area Number _____

Species	Number Caught	Number Kept

Question 6 is continued on page 4.



6. (Continued)

Area Number ___

Species	Number Caught	Number Kept

Area Number ___

Species	Number Caught	Number Kept

7. What do you consider to be a high quality size fish (in pounds) for each of the following species?

Northern pike _____ Smallmouth bass _____

Lake trout _____ Lake whitefish _____

Walleye _____ Arctic grayling _____

Brook trout _____

8. Of the species available in Manitoba, which do you prefer to catch?

FIRST _____ SECOND _____ THIRD _____

9. If you fished for sport in Manitoba in any of the years listed below, please mark these years with an "x".

1975 ___ 1976 ___ 1977 ___ 1978 ___ 1979 ___

10. Did you fish for sport OUTSIDE Manitoba in 1980?

YES _____ NO _____

If yes, please indicate below:

a) the name(s) of the province, territory, state or country where you fished, the days fished by type of water and the name of any particular species you were fishing for.

WHERE YOU FISHED	DAYS FISHED		PARTICULAR SPECIES FISHED FOR
	Fresh	Salt	
_____	____	____	_____
_____	____	____	_____
_____	____	____	_____
_____	____	____	_____

b) the name(s) of any National Parks in Canada or any of the Great Lakes (Superior, Huron, Ontario, etc.) where you fished and the number of days fished.

National Parks	Days Fished	Great Lakes	Days Fished
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SECTION B
EXPENDITURES ON SPORTFISHING BY YOU AND/OR MEMBERS OF YOUR HOUSEHOLD

11. Did you and/or members of your household make any major purchases or investments in Manitoba in 1980 for purposes relating in whole or part to sportfishing? (e.g. boats, recreational vehicles, tents, etc.)

YES _____ NO _____

If yes, please describe the items below:

Item purchased	Price	Percentage use for sportfishing
_____	$_____	_____ %
_____	$_____	_____ %
_____	$_____	_____ %

12. Did you and/or members of your household purchase in Manitoba any "package" or so-called all-inclusive sportfishing trips, tours or outings in Manitoba in 1980? (for example, fly-in fishing camps, going out on guide or charter boats, and so on, where the price includes transportation, plus a wide range of other facilities such as lodging, food, tackle, bait, etc.)

YES _____ NO _____

If yes, please describe the "package(s)" below.

Type of Package	Number of Area Fished	For you and your household	
		Number of anglers	Cost to household
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

13. EXCLUDING major purchases, investments and package tours, please estimate below the amount of money you and/or members of your household spent for sportfishing in Manitoba in 1980:

1. Lodging (hotel, motel, cabin, etc.) $_____
2. Campsite fees _____
3. Food (restaurant, meals, groceries and beverages) _____
4. Travel costs within Manitoba (by car, air, u-drives, etc.) _____
5. Boat rentals _____
6. Fishing tackle and supplies (rods, reels, special clothing, etc.) _____
7. Bait _____
8. Household owned boat costs (gas, repairs, storage, etc.) _____
9. Guide services _____
10. Fishing licenses, permits and access fees _____
11. Other (please specify) _____ _____
_____ _____

14. If you or members of your household fished in Canada outside Manitoba in 1980, please estimate how much was spent elsewhere for sportfishing in 1980:

$ _____ spent in other parts of Canada

SECTION C
TRIP INFORMATION

15. a) How many trips did you make to Manitoba in 1980?

_____ trips.

b) How many days in total did you spend in Manitoba in 1980 for all reasons?

_____ days.

16. a) On how many of your trips to Manitoba in 1980 did you fish?

_____ trips.

b) For how many of these trips was fishing:

	number of Trips
- your main reason for visiting Manitoba	_____
- a secondary reason	_____
- decided upon after arrival	_____

17. What type of accommodation did you use on your trips to Manitoba in 1980?

Type of Accommodation	Trips on Which You Fished (please check)	Trips on Which You Did Not Fish (please check)
Friends and relatives	_____	_____
Tent or trailer	_____	_____
Fishing lodge or camp	_____	_____
Other commercial lodging	_____	_____
Other (please specify)	_____	_____
_____	_____	_____

18. How many persons in your household held Manitoba fishing licences in 1980, by type?

season licence _____
4 - day licence _____

19. Considering the price which you paid for your fishing activities, please rate the facilities used and the services which you received.

	Excellent	Good	Fair	Poor	Does not apply
Transportation services	___	___	___	___	___
Accommodation	___	___	___	___	___
Guide services	___	___	___	___	___
Food services	___	___	___	___	___
Quality of angling	___	___	___	___	___

20. In planning your trip to Manitoba, where did you obtain information and/or assistance? (Check all applicable)

Travel agent _____
Sport/travel show _____
Manitoba Tourism Department _____
Manitoba Natural Resources Department _____
friends or relatives _____
Lodge or outfitter _____
Other source _____

21. Do you intend to fish in Manitoba in the future?

Yes _____ No _____

22. If there had been no fishing opportunities in Manitoba, would you have:

(✓)

- stayed a shorter time ___
- substituted other activities ___
- not come at all ___

23. Please rate (most important) 1 2 3 4 5 6 7 8 (least important) the following considerations as they relate to the success of your angling trip.

personal service from lodge/out fitter _____
kind of fish caught _____
remoteness or privacy _____
fishing companions _____
number of fish caught _____
appeal of surroundings _____
quality of accomodation _____
size of fish caught _____

24. Listed below are a number of practices or techniques which are either currently in use or may be introduced to maintain or increase the quality of angling (for each listed, indicate how strongly you agree or disagree with the practice).

	Strongly Agree	Agree	Disagree	Strongly Disagree
Catch/release regulations (barbless hooks)	___	___	___	___
Shortening season lengths	___	___	___	___
Size limits	___	___	___	___
Gear restrictions (eg number of hooks)	___	___	___	___
Special permits/stamps	___	___	___	___
Yearly possession limits	___	___	___	___
Specific lake regulations	___	___	___	___

25. What are your opinions regarding commercial fisheries? (You may check more than one).

They are valuable in monitoring species balance if they can concentrate on non-sports species. _____
They have no place in an angling lake but should have lakes specifically managed for their use. _____
Lakes can be zoned for their use as well as angling. _____
I will not fish on a lake that is commercially fished. _____
Commercial fisheries ruin angling. _____
Commercial fishing should take place in the winter, angling in the summer. _____
Other (please specify) _____

SECTION I
HOUSEHOLD PROFILE

To help us analyse all the information provided, we would appreciate some information about you and your household. ALL ANSWERS ARE CONFIDENTIAL.

26. Person who completed the questionnaire:

Your age: _____ years
Your sex: Male _____ Female _____

27. Would you please provide the following information about other members of your household. (If no days were fished, please enter "0").

	Age	Sex		Number of days fished in Manitoba in 1980
		Male	Female	
1.	____	____	____	____
2.	____	____	____	____
3.	____	____	____	____
4.	____	____	____	____
5.	____	____	____	____
6.	____	____	____	____
7.	____	____	____	____
8.	____	____	____	____
9.	____	____	____	____

28. Which of the following outdoor publications, if any, do you subscribe to or regularly read?

_____ Sports Afield
_____ Outdoor Life
_____ Field and Stream
_____ Other (please specify)
_____
_____

YOUR COOPERATION AND ASSISTANCE ARE APPRECIATED